UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

VIA ELECTRONIC MAIL

October 8, 2020

The Honorable Jeanne Shaheen
United States Senate
506 Hart Senate Office Building
Washington, DC 20510
c/o: peter_clark@shaheen.senate.gov

The Honorable Maggie Hassan
United States Senate
324 Hart Senate Office Building
Washington, DC 20510
c/o: kerry_holmes@hassan.senate.gov

The Honorable Ann McLane Kuster
United States House of Representatives
320 Cannon House Office Building
Washington, DC 20515
c/o: charlotte.harris@mail.house.gov

RE: Clean Water Act Permit for the Merrimack Station Power Plant in Bow, NH

Dear Senators Shaheen and Hassan, and Representative Kuster:

Thank you for your letter of September 22, 2020, posing certain questions related to the National Pollutant Discharge Elimination System (NPDES) permit for the Merrimack Station Power Plant in Bow, NH. On behalf of the Environmental Protection Agency (EPA) Region 1 office, I want to thank you and your staff for your commitment over the years to regular engagement on this permit.

Before turning to your specific questions, I would like to make one clarification regarding the current status of the permit, which was finalized on May 22, 2020. Your letter notes that "portions of the permit will be finalized later [in September]." As you know, two permit appeals were filed with EPA's Environmental Appeals Board: one by Sierra Club and Conservation Law Foundation, and another by the facility owner (GSP Merrimack LLC). Under federal regulations, the permit conditions challenged in the appeals are automatically stayed, along with any other conditions that are "inseverable" from the challenged conditions. Here, the portions stayed by the appeals include permit provisions related to the limits on discharges of heat, requirements for cooling water intake structures, and sections related to combustion residual leachate. While the

rest of the permit took effect on October 1, 2020, the challenged provisions will remain stayed pending the outcome of the appeals.

Below, please find detailed answers to the three questions you posed regarding cooling towers and thermal discharges.

> **"1. There are more than 350 coal-burning power plants in the United States. Could you please provide the most up-to-date data on the number of these coal-burning plants that have permits that require cooling towers onsite?"**

At the outset, we note that thermal discharge limits are set for NPDES permits on a case-by-case, site-specific basis. Therefore, the reasons for each permit decision may vary from case to case. After consulting with the Office of Water at EPA Headquarters in Washington, D.C., a review of EPA records indicate that at the time EPA issued its CWA § 316(b) Existing Facilities Rule in 2014, there were approximately 95 coal-burning power plants using cooling towers.[1]

EPA notes, however, that these facilities may have installed cooling towers for a variety of different reasons, including, for example, a lack of available water to use for once-through cooling. Without a detailed review of the records for each facility, EPA is unable to further detail the specific reasons why each facility uses cooling towers. However, EPA suspects there are only a handful of instances where a retrofit of cooling towers at an existing facility has been required by a Clean Water Act permit.

> **"2. We have heard from our constituents that the lack of cooling towers at Merrimack Station will contribute to an environment where invasive species, such as the Zebra Mussel, can thrive in the Merrimack River. Can you please explain how the in-stream monitoring requirements and temperature limits in the final permit will address these concerns and whether they would protect against all invasive species?"**

Region 1 does not agree that without cooling towers, Merrimack Station's thermal discharges will contribute to an environment where invasive species can thrive.[2] While the Region had been concerned about potential invasive species impacts to the Merrimack River under the facility's baseload operations, the reduced discharges authorized under the final permit (*i.e.*, under the facility's new operating levels) have mitigated those worries for several reasons detailed in the permit record. Of those, two reasons stand out: first, the final permit only allows the facility to discharge heat a fraction of the time it once did; second, the new final permit sets instream temperature limits that will ensure lower river temperatures than occurred in the past.

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[1] *See National Pollutant Discharge Elimination System—Final Regulations To Establish Requirements for Cooling Water Intake Structures at Existing Facilities and Amend Requirements at Phase I Facilities*, 79 Fed. Reg. 48,300 (Aug. 15, 2014).

[2] EPA notes that Zebra Mussels (*Dreissena polymorpha*), referenced in your question as an invasive species of concern, have not been identified in the relevant section of the Merrimack River; nor were Zebra Mussels identified as a concern by any commenter on the Merrimack Station permit. Our response above was drafted in reference to the invasive Asian clam (*Corbicula fluminea*) which *was* identified as a concern in the Merrimack River.

That said, the final permit requires biological monitoring to assess thermal discharge effects on fish and invertebrates, including the Asian clam, and such information will have to be submitted for consideration in any future renewal of the permit's thermal discharge limits. Thus, the Region concluded that the permit will protect against the power plant's thermal discharges causing the proliferation of Asian clams.

> **"3. It is our understanding that temperature limits are only triggered if a 45-day rolling capacity factor exceeds 40 percent. However, after reviewing EPA data on capacity for units 1 and 2 at Merrimack Station, the plant has rarely met this capacity factor in recent years. Please explain how the Merrimack River's temperature will be monitored to ensure protections against invasive species when the capacity factor trigger is not met."**

First, to clarify, it is incorrect to say that the final permit's temperature limits "are only triggered if a 45-day rolling capacity factor exceeds 40 percent." The final permit (1) imposes temperature limits during periods when vulnerable lifestages of fish are present to prevent mortality, and (2) sets temperature limits to prevent chronic effects (*i.e.*, sublethal harms) on a year-round basis (with the exception that from May 1 to September 30, if the facility remains below a 40 percent capacity factor limit, then it is deemed in compliance with the chronic limits).

Second, we agree with you that the operational data from recent years suggest that the facility will rarely operate 40 percent of the time in the warm weather months. Thus, EPA concluded that even *less* heat will be contributed to the River.

Nonetheless, the permit conditions described above ensure the protection of water quality standards in the unexpected event that Merrimack Station does generate power in excess of this threshold. As noted above, this capacity factor limit only applies from May 1 to September 30, but temperature monitoring and reporting are required *year-round*. Therefore, thermal discharge data will be collected throughout the year and can be evaluated on an ongoing basis and for future permit renewals. Furthermore, the capacity factor alternative limit does not apply during the *cold weather* season – when we are most concerned about thermal discharges enhancing survival of the Asian clam by providing a thermal refuge.

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Finally, I'd like to briefly address your concern regarding the differences between the final permit and the draft permits EPA issued for review in 2011 and 2014.

- As compared to the 2011 draft permit, while the final permit's thermal discharges limits are different from those specified in the 2011 draft permit, the final limits are closely patterned after a permitting option expressly described in the record supporting the 2011 draft. In other words, EPA clearly noted in the 2011 draft permit that it was still considering several options for effluent limits – including the ultimately included option.
- As compared to the 2014 draft permit, the final permit is only different in that it does not authorize any discharges of Flue Gas Desulfurization wastewater (the permittee withdrew its request for authorization to discharge that wastewater).

More complete information regarding these facts are available in the final permit's response to comments; the Region is happy to provide your offices with that information directly.

I appreciate your recognition of the importance of issuing the new final Merrimack Station permit given the age of the prior permit. The Region believes it has developed a scientifically sound permit that will protect the Merrimack River consistent with the requirements of the Clean Water Act. Region 1 also notes that it developed the permit in close consultation with the New Hampshire Department of Environmental Services (DES), and that DES officially certified that the permit satisfies state water quality requirements.

I hope this letter has provided helpful information in response to your questions. If you have further questions, please let me know and the Region 1 team will do its best to answer them.

Sincerely,

Dennis Deziel
Regional Administrator

cc: Robert Scott, Commissioner, New Hampshire Department of Environmental Services